

## **The Auto Future: It's the Perfect Storm**

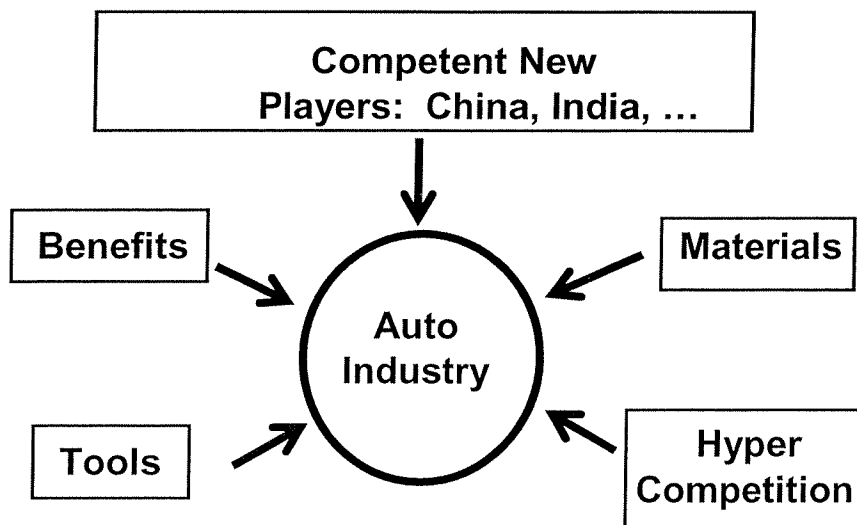
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*Michigan House Commerce Committee*

*Lansing, Michigan*

*February 21, 2006*

## **The Perfect Storm**



# **Auto Industry of the Future**

A World of  
Vanishing Boundaries

## **Demographics**

### *“Boomers go Boom”*

- ♦ Consumer Behavior
- ♦ Socio / Political
- ♦ Health Care
- ♦ Skilled Workers
- ♦ World Issue

## **Auto Industry—Like Pro Football**

Everyone is Fast and Hits Hard

Excellent Players-

- ♦TAM's – Traditional American Manufacturers
- ♦NAM's – New American Manufacturers

## **Competition**

Relentless

Unforgiving

## **Domestic Manufacturers**

Face \$2,000 - \$ 2,500

Cost Penalty

## **Domestic Industry**

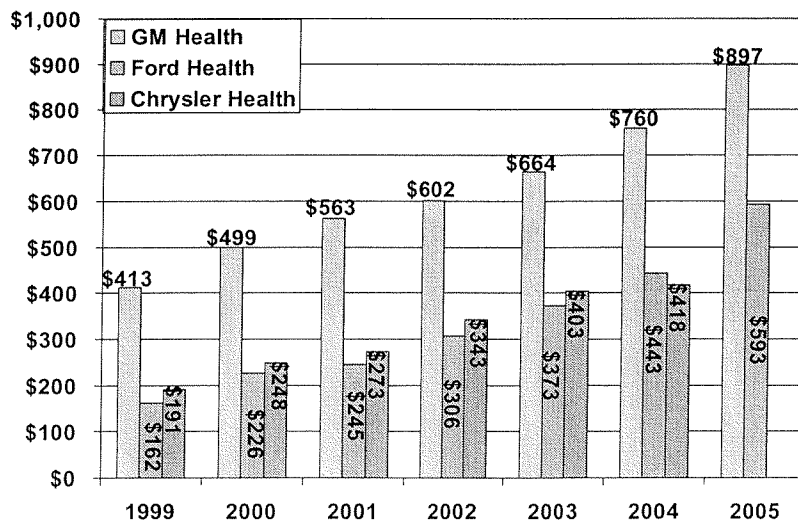
Difficult Times But Survivable

- GM
- Ford
- DaimlerChrysler
- Delphi
- Visteon
- Traditional Suppliers

## U.S. Auto Legacy Ratios – End of 2005

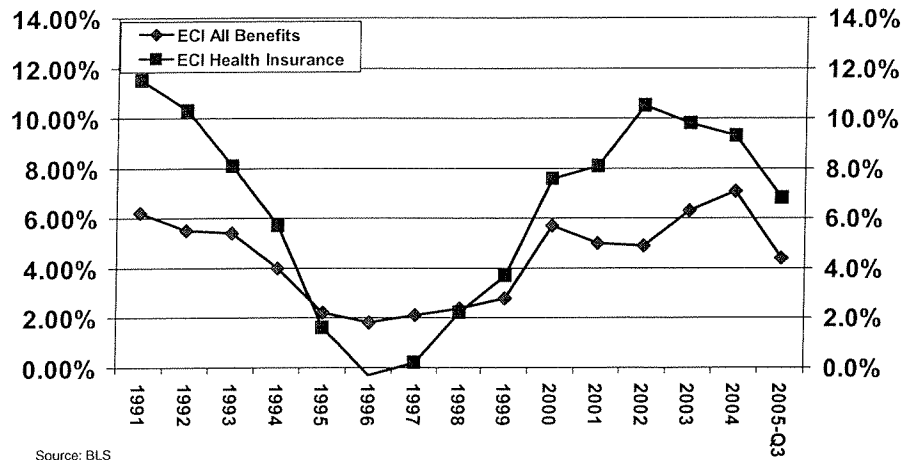
	GM	Chrysler Group
Active:		
Salaried Non-Union	43,534	14,323
Hourly	113,152	54,466
Total	156,686	68,271
Retired:		
Salaried Non-Union	116,000	20,916
Hourly	342,400	83,170
Total	458,400	104,086
Ratio (Retiree/Act.)	2.93	1.52

## Health Legacy Cost per North American Vehicle Produced Thru 2005



## Health Cost Inflation

Employment Cost Index 1991 to 2005  
ECI Private Industry Costs per Hour

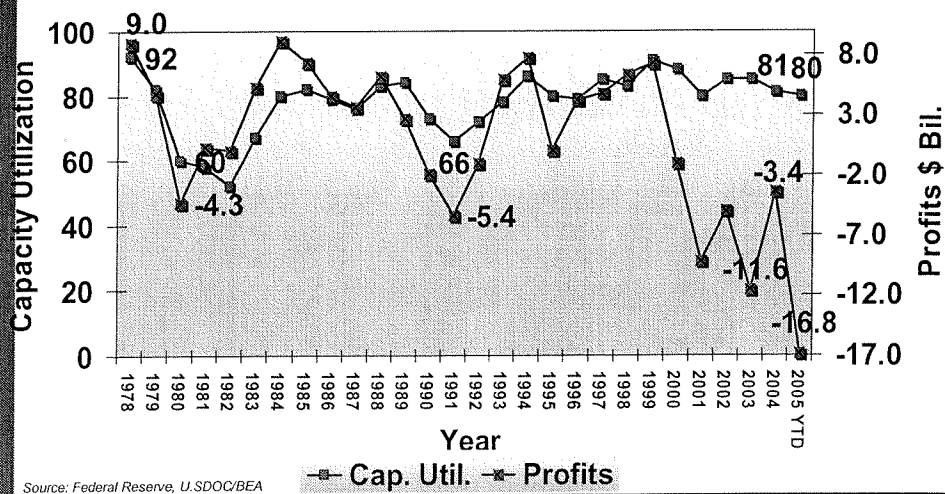


**Industry, Highly Unstable —**

**Not in Final Form**

## There is Good News & Bad News: We Have a Crisis

### U.S. Automotive Industry Capacity Utilization and Profits 1978 – 2005



# **The Old Business Model is Broken**

# **It's Change or Die & Shrink to Grow**



## **Auto Industry 2007**

- ♦ Successful manufacturers and suppliers
- ♦ Strong market
- ♦ Great products
- ♦ But—not everyone made it

**The Future —  
It's not what it used to be**

## **Economic Contribution of the U.S. Automotive Industry**

- ♦ Manufacturing
- ♦ Retail

## **Auto Manufacturing**

Manufacturers . . . . . 500,000 + jobs

Suppliers . . . . . 1,800,000 + jobs

R & D Spending . . . \$18+ billion

## **Economic Contribution Per Job**

Auto Mfr.	\$292,000
Average Job	\$ 73,500
Average Mfg.	\$120,000

## **Economic Multiplier**

Auto Manufacturers – 7.5

New Vehicle Dealers – 2.5

## **Foundation for Excellence**

- Smarter Industry
- Platform / Component Set Rationalization
- Faster, Better Product Development
- Manufacturing Flexibility
- Stronger Processes
- Discipline
- Supplier Competence
- Lean Everything

**Market Share is Nice**

**Profits are Essential**

## **Future Profits**

- ♦ Price Increase
- ♦ Market Share
- ♦ Cost Reduction

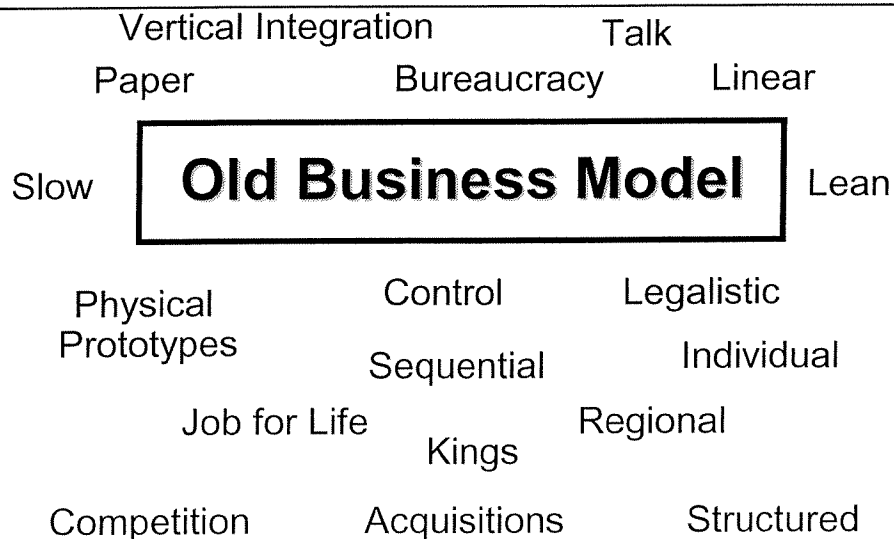
## **Cost Reduction — Survival Issue**

- ♦ Low Investment
- ♦ Subsystem Optimization
- ♦ Global Sourcing
- ♦ Flexible, Lean Manufacturing
- ♦ Fast Product Development
- ♦ High Volume Platforms and Component Sets

## Business Model

Keys to Success:

- ♦ Effectiveness
- ♦ Efficiency
- ♦ Value



Virtual Integration      Listen  
Paperless      Anti-bureaucracy      Collaboration  
Fast      **New Business Model**      Lean Agile  
Virtual      Empowerment      Trust  
Prototypes      e-enabled      Team  
People Flow      Coaches      Parallel  
Coopetition      Alliances      Global  
Flexible

## New Business Model

- ♦ Auto Industry
- ♦ Industry
- ♦ Education
- ♦ Health Care
- ♦ Government

## **Lean / Agile**

- ♦ Investment
- ♦ Engineering
- ♦ Manufacturing
- ♦ Everything

## **Examples: New Business Model**

- Ford/GM Transmission Collaboration
- GM – DCX – BMW Hybrid Collaboration
- DCX – Toledo Plant
- GM Body Tooling
- Tool and Die Consortia
- Toyota Reinvention



## **Old Labor/Mgt Model Is Obsolete**

**Confrontation → Collaboration**

## **Cost of Risk is Decreasing**

- Flexible Lean Manufacturing
- Lower Cost Tooling
- High Performance Product Development
- Improved Capital Efficiency
- Agile Business Philosophy
- High Volume Component Sets

## **Knowledge:** The Competitive Edge

- ♦ Creativity
- ♦ Innovation
- ♦ Value

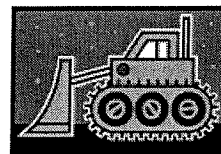
**Customer  
Pull**

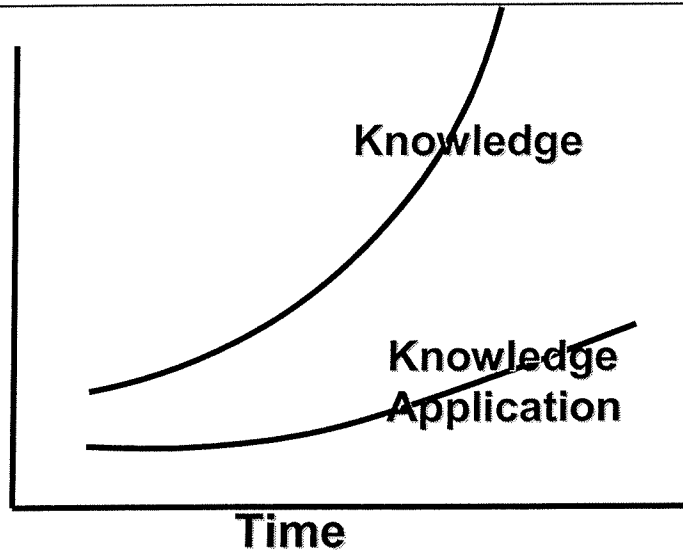
**Cars  
and  
Trucks**

**Technology  
Push**



**Product  
and  
Process**





**Fast-paced change demands  
leverage of all resources**

**Communication**

**Collaboration**

**Cooperation**

**Alliances**

**Teamwork**

**Change is Tough**

**Not Changing is Tougher**

**It's All About People...**  
**Relationships Are Important**

**Automotive Market**

- ♦ The Customer is King or Queen
- ♦ Fast Changing
- ♦ Competition / Many Choices

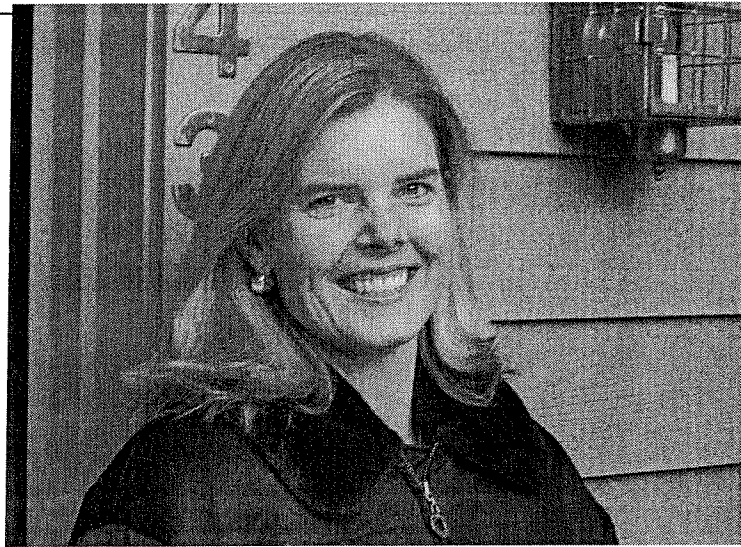
## **Future Market Growth**

- ♦ Developing Countries — great potential
- ♦ Mature Markets — slow growth unless ➡ New Technology !

## **Product Segmentation**

- ♦ Need
- ♦ Fashion

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## **Customer Satisfaction**

## **More Than Expected**



## **Product Technology**

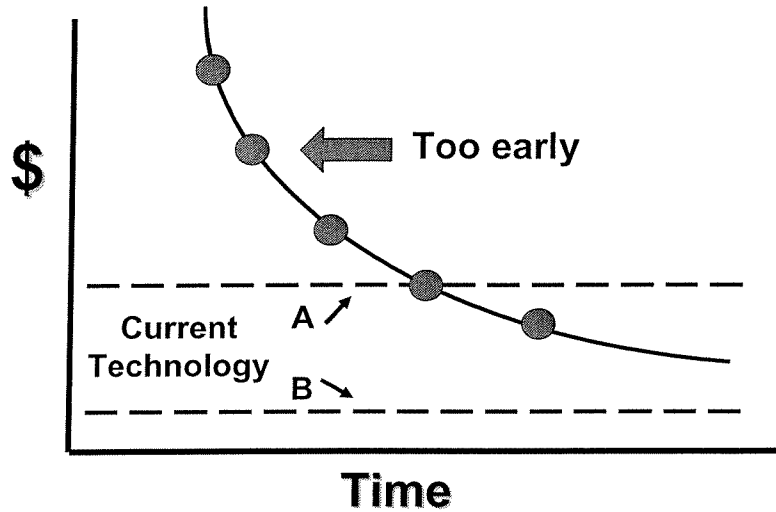
At the edge of a revolution?

## **Future Power Plants**

- *Gasoline*
- *Diesel*
- *Hybrid*

*The Answer – ?*

## Technological Progress—When to Commercialize



## Electrical / Electronic Content

	Current	2009
Total Combined E/E	20	31.5
Electronic Content	10	20

## **Future Direction**

It's All a Matter of Economics

### **Auto World — 2006+**

- A Few Big Dogs
- Consolidation Continues
- Subsystem Optimization
- Super Suppliers – Tiers 1 & 2
- Lean — Agile
- Fast, Smart, Rich, Global
- Technology Revolution

# **World Class is a Moving Target**